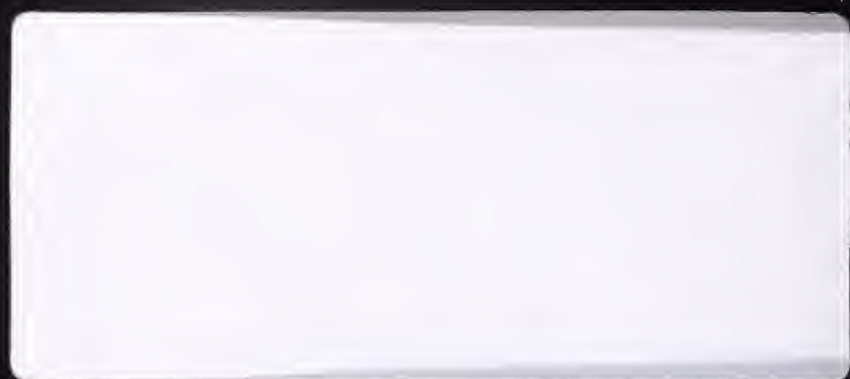


Internet and the
Information Superhighway:
Impacts on
Information Systems





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***Internet and the Information Superhighway—
Impacts on Information Systems***

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Internet and the Information Superhighway

Impacts on Information Systems

MMONc-1

INPUT

Notes:

Peter Cunningham
President and CEO
INPUT

MMONc-2

INPUT

Notes:

In This Presentation

- Current U.S. situation in government/private sector
- Viability of the Internet
- Commercial services on the Internet
- Impacts on information systems
- Impacts on information services market
- Key market players

MMONc-3

INPUT

Notes:

U.S. Government and the Internet

- Vice President (VP) Al Gore and the National Information Infrastructure (NII)
 - Internet promoted as the national backbone
 - Primary targets: Health, Education, Social Services

MMONc-4

INPUT

Notes:

U.S. Government and the Internet

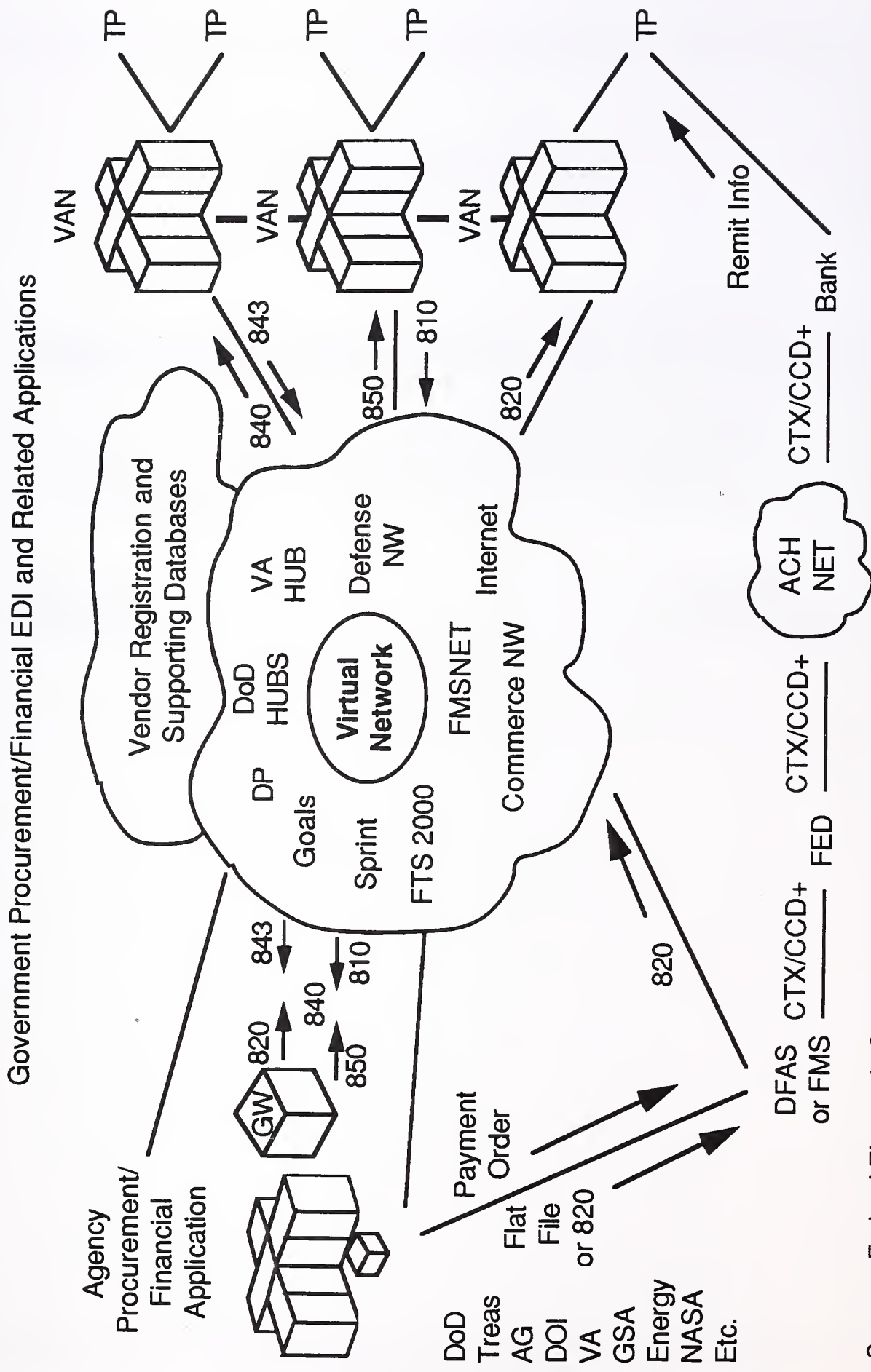
- VP Al Gore and the NII
 - Business demonstrations (e.g., \$6 Million grant for CommerceNet)
 - Initially for catalog sales
 - Applications growing: Electronic Commerce

MMONc-5

INPUT

Notes:

Target Electronic Commerce Architecture



Source: Federal Electronic Commerce Acquisition Team

U.S. Government

NPR IT accompanying report. Three major parts:

- I. Strengthen leadership in information technology
- II. Implement "Electronic Government"
- III. Establish support mechanisms for the "Electronic Government"

MMONc-7

INPUT

Notes:

Part I: Strengthen Leadership in Information Technology

Provide clear, strong leadership to integrate information technology into the business of government

- Government information technology services working group
- “Empowered” interagency teams

MMONc-8

INPUT

Notes:

Part II: Implement “Electronic Government”

- Provide intergovernmental tax filing, reporting and payments processing
- Establish an international trade data system
- Create a national environmental data index
- Plan, demonstrate and provide government-wide electronic mail

MMONc-9

INPUT

Notes:

Part II: Implement “Electronic Government”

- Virtual agency themes
- Seven illustrative cross-agency programs
- National integrated electronic benefits transfer
- Develop integrated electronic access to government information and services
- Establish a national law enforcement/public safety network

MMON-10

INPUT

Notes:

Part III: Establish Support Mechanisms for the “Electronic Government”

Establish an information infrastructure

- GITS (NII, GII and gsii)
- Share “IT” resources

MMONc-11

INPUT

Notes:

Internet Value-Added Services

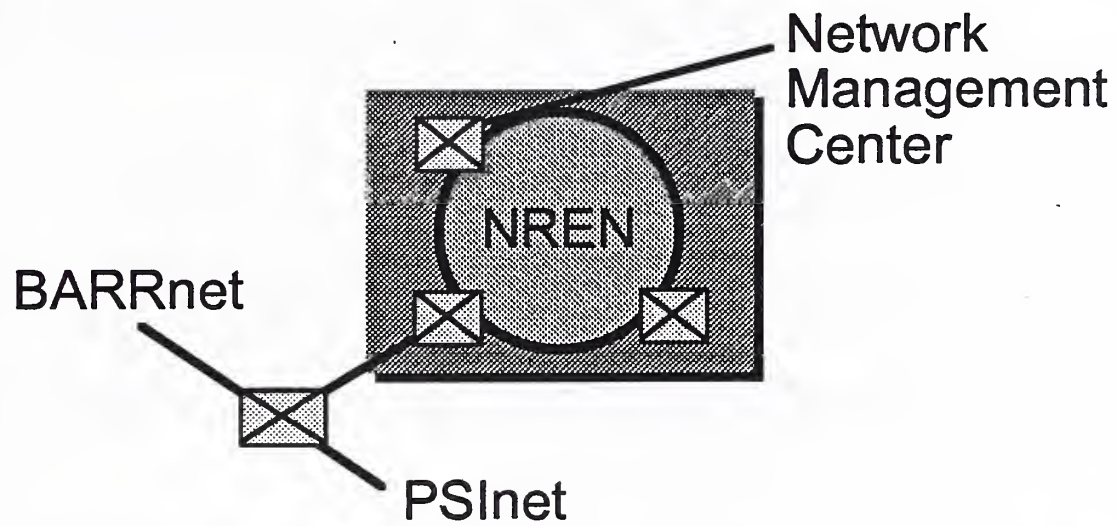
- Usenet News
- Gopher
- WAIS
- WorldWideWeb
- Mosaic

MMONG-13

INPUT

Notes:

1994 +



MMONo-14

INPUT

Notes:

1994 +

1993 HPCA replaced NSFNet funding

- Gbit backbone network to interconnect super computer centers
- Network access point (NAP) will provide AUP gateway
- Schools, colleges, non-profits can apply for NREN grants

MMONc-15

INPUT

Notes:

Value-Added Application Pilots

- MCC's enterprise integration network (EIN)
- CommerceNet
- MecklerWeb

MMONG-16

INPUT

Notes:

Is the Internet a Viable National Network?

- Pros
 - Low cost access
 - Collective management
 - Accessible by all industry types

MMONG-17

INPUT

Notes:

Is the Internet a Viable National Network?

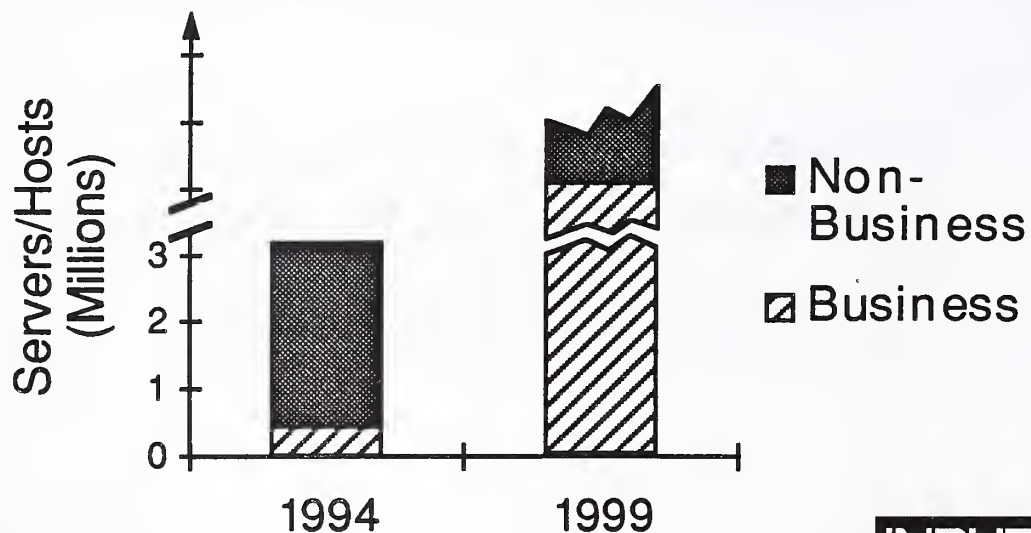
- Cons
 - Security/unreliable delivery remain issues
 - Searches are difficult in a sea of information
 - Relies on vendor agreement to work
 - Limits on capacity (time, bandwidth)

MMONG-18

INPUT

Notes:

Internet Connections - Servers/Hosts



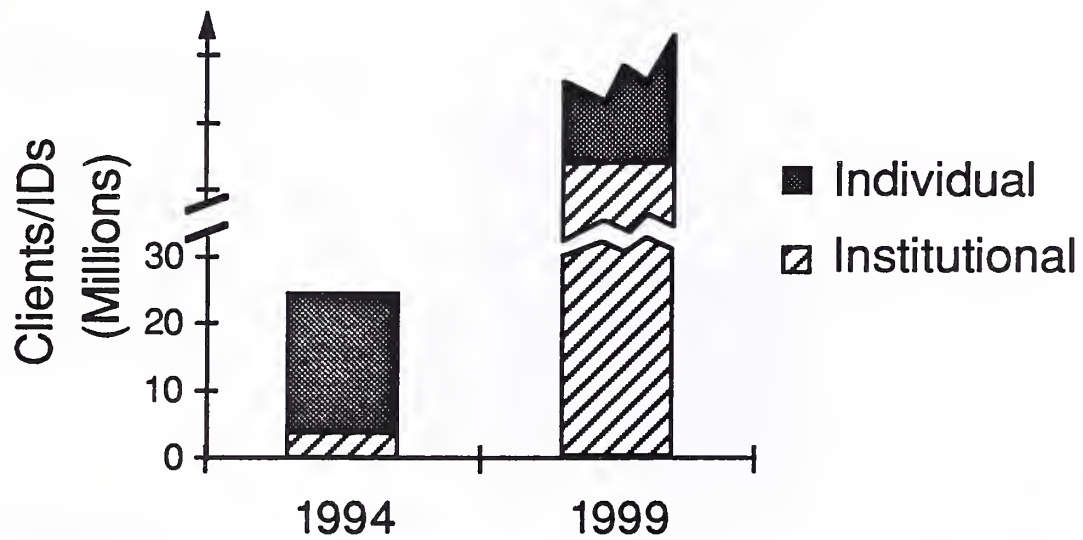
MMONc-19

INPUT

Notes:

1994: 20K business servers/hosts
3 M non-business servers/hosts

Internet Clients/Internet IDs



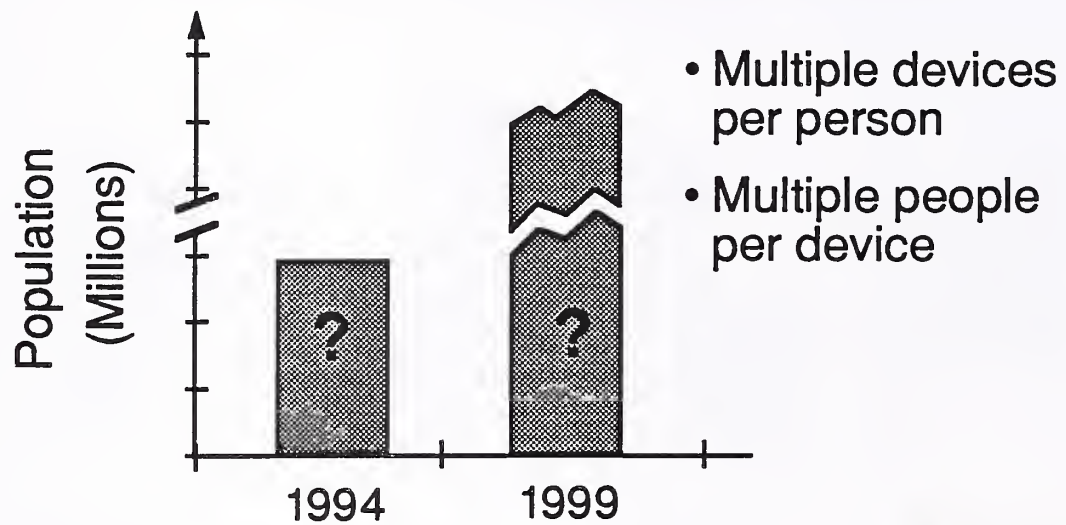
MMONG-20

INPUT

Notes:

1994: 1 million institutional
23 million individual

Internet Population

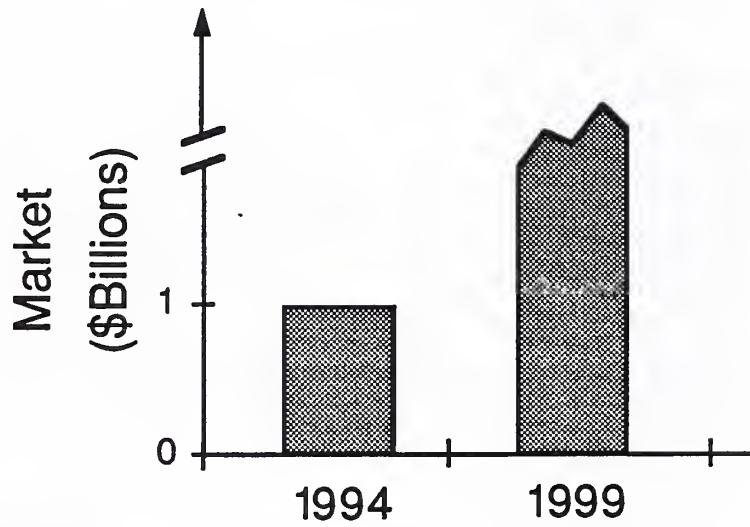


MMONc-21

INPUT

Notes:

Internet Market



MMON-22

INPUT

Notes:

1994 user expenditures approximately \$1 billion.

Internet Market

- 1994 - \$1 billion
- 1999 -

User Expenditure
per month

\$5

\$50

\$500

1999
Market Size

\$12 Billion

\$120 Billion

\$1,200 Billion

MMONc-23

INPUT

Notes:

What Will You Get?

- Interactive TV
- Entertainment
- Videoconferencing
- Education
- Communications/BBS
-
- Banking
- Security
- Insurance
- Retailing
- Government

MMONc-24

INPUT

Notes:

Electronic Commerce and the Internet

- U.S. Business-to-Business Transactions
 - \$3.3 Trillion in 1994
 - \$4.3 Trillion in 1999
- Electronic Commerce Component
 - \$60 Billion (2%) in 1994
 - \$250 Billion (6%) in 1999

MMONG-25

INPUT

Notes:

Electronic Commerce and the Internet

- Internet-related electronic commerce
 - 1994: \$500 million (<1%)
 - 1999: \$50 billion (20%)

MMONC-26

INPUT

Notes:

Commercial Services Via the Internet

- Access (phone dial-up to satellite, high-speed fiber)
- Basic: File transfer, e-mail, fax, remote computer access

MMONc-27

INPUT

Notes:

Commercial Services Via the Internet

- Other:
 - Information browsing, searching, delivery, archiving
 - Real-time interactions

MMONG-28

INPUT

Notes:

Commercial Services Via the Internet

- Other:
 - Multicasting of audio and video programs
 - Directory look-up

MMONc-29

INPUT

Notes:

Internet/Superhighway Impact on Information Systems

- EDI:
 - Dramatic increase in use
 - Elimination of niche vendors
 - EDI standards developed by consensus

MMONc-30

INPUT

Notes:

Internet/Superhighway Impact on Information Systems

- CALS
 - Internet "environment" is a major enabler
 - High perceived potential
 - New uses for CALS (e.g., health area)
 - Standards work continues; improved access
 - CSC major U.S. commercial contract

MMONc-31

INPUT

Notes:

Internet/Superhighway Impact on Information Systems

- Mosaic
 - Used for surveys, databases, subscriptions
 - Vendors: Spry, Netcom, Netscape Communications
 - Will be one of many "browsers" for Internet
 - Agent market will explode

MMONc-32

INPUT

Notes:

Internet/Superhighway Impact on Information Systems

- WorldWideWeb
 - Will grow rapidly
 - Linked multimedia documents; like highway billboards
 - Problem: disorganized searching (hence the name "WEB")
 - Users: technology vendors, electronic mail users, colleges
 - Vendors: Infoseek, TRW

MMONc-33

INPUT

Notes:

Internet/Superhighway Impact on the Information Systems Industry

- Dramatic behavioral impact on corporate IS
- Vendors responding to customer requests for access/integration with Internet
- Standards activity increases
- Backbone upgrades are ongoing
- Security and encryption improves steadily
- Market will leap when standards/security issues resolved

MMONc-34

INPUT

Notes:

Impact on Network Services Companies

- Negatives
 - Reduced prices
 - Content owners will offer their own Internet connections
 - Increased competition
 - Value of proprietary systems will decline

MMONc-35

INPUT

Notes:

Impact on Network Services Companies

- Positives
 - Access to a broader client base
 - Value in cross-content analysis
 - Opportunity for new products/services

MMONc-36

INPUT

Notes:

Conclusion

- Traditional services will shrink
- New vendors will take market share, e.g.,
 - Marvel
 - TCI
 - Disney
 - MCI
- Just like mainframe vs. client/server vendors

MMONG-37

INPUT

Notes:

Internet/Superhighway Impact on Software Providers

- Each new Internet user is a target
- Bulk of commercial users will stay on commercial networks (VANs)
- Current management and history make evolution into a corporate network option unlikely:
 - Businesses prefer virtual private network
 - Federal government won't use for EC
 - Managed "by committee"
 - Low security/reliability

MMONc-38

INPUT

Notes:

Internet/Superhighway Impact on Professional Services (PS)

- Internet explodes possible integration and reengineering opportunities
- Additional tool for professional services use to solve client problems.
- For many applications
 - Greater connectivity
 - New class of leverageable solutions
- May encourage "do it yourself" client attitudes at midrange level, with risk to PS revenues

MMONc-39

INPUT

Notes:

Key Market Players

- CommerceNet
- AOL
- Global Internet Access Corp.
- BBN
- Others: CIX, NSFnet; PSINet; ESNET

MMONc-40

INPUT

Notes:



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